

120V

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
19 April 2001 (19.04.2001)

PCT

(10) International Publication Number
WO 01/28010 A1

(51) International Patent Classification⁷: H01M 4/48, 4/50

(21) International Application Number: PCT/CA00/00194

(22) International Filing Date: 28 February 2000 (28.02.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/158,303 8 October 1999 (08.10.1999) US

(71) Applicants and

(72) Inventors: YOO, Yeong-Chang [KR/CA]; 164 Centre-pointe Dr., Nepean, Ontario K2G 5C2 (CA). SEUNG, Do-young [KR/KR]; Apartment 7-1110, Shindong-A, Sucho-dong, Sucho-gu, Seoul (KR). DAVIDSON, Isobel [CA/CA]; 1569 Delia Crescent, Orleans, Ontario K4A 2X7 (CA).

(74) Agent: ANDERSON, J., Wayne; National Research Council of Canada, EG-10, Building M-58, Montreal Road, Ottawa, Ontario K1A 0R6 (CA).

(81) Designated States (*national*): AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— With international search report.

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CATHODE ACTIVE MATERIAL FOR LITHIUM ELECTROCHEMICAL CELLS

(57) Abstract: The invention disclosed relates to a novel single-phase compound of molecular formula $\text{Li}_x\text{Cr}_y\text{Mn}_{2-y}\text{O}_{4+z}$, wherein $2.2 < x < 4$, $0 < y < 2$ and $z \geq 0$. This compound may be used as the active cathode material in secondary lithium ion cells. Secondary lithium ion cells including such cathodes are also described.

WO 01/28010 A1